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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,622	10/14/2003	Stefano Benedetto Previdi	50325-0822	5086

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EXAMINER	
PHAM, BRENDA H	

ART UNIT	PAPER NUMBER
2416	

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10/29/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/685,622	PREVIDI ET AL.	
	Examiner	**Art Unit**	
	BRENDA PHAM	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-7,9,10,12-15,17,18,20-25 and 27-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1,2,4-7,9,10,12-15,17,18,20-25 and 27-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date *10/02/08;09/23/08*.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-2, 4-7, 9-10, 12-15, 17-18, 20-25, 27-30 are pending in the application.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 7, 9, 15, 17, 23, 24 and 30 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 24, 25, 27-30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. “A computer readable storage medium” was defined in the specification as [0098] “Transmission media includes coaxial cables, copper wire and fiber optics, including the wires that comprise bus 142. Transmission media can also take the form of wireless links such as acoustic or electromagnetic waves, such as those generated during radio wave and infrared data communications."... [0099] "Common forms of computer-readable media include...a carrier wave as described hereinafter, or any other medium from which a computer can read." is directed to non-statutory subject matter.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-2. 4-7. 9-10. 12-15. 17-18, 20-25, 27-30 are rejected under 35 U.S.C 103(a) as being unpatentable over Harper (US 7,058016 B1) in view of Trayford et al (US 2004/0038671 A1).

Regarding claims 7, 15 and 23, Harper discloses an apparatus (claim 15) and a method (claim 7) of generating routing information in a data communications network, the method comprising:

receiving at a first network element information relating to a second network element;

determining whether the information relating to a second network element indicates a change in the network;

when information relating to a second network element indicates a change in the network, determining a new shortest path through the network from the first network element of each network element in the network;

for each network element in the network, computing a delay that is proportional to a distance to that network element from the first network element **("With link state routing, each router must discover its neighbors and learn their network addresses, measure the delay to each of its neighbors,**

construct a packet containing this information, send the packet to all other routers, and compute the shortest path to every other router." Col. 4, lines 37-52); and

after a delay, updating routing information for the first network element based on the new shortest path for the first network element **(Harper teaches "a method of updating a tree structure of a root node in a computer network of interconnected nodes after a change in the network's topology comprises receiving new route information at the root node and applying an incremental Dijkstra algorithm to the root node only if the new route information improves or worsens existing routes of the node or one of the existing routes of the nodes are lost" (Col. 2, line 17-25, also see Col. 5, line 30-50).**

Harper does not discloses computing a delay that is proportional to a number of hops form the network element to a furthest upstream of its children multiplied by a configurable delay value.

Trayford et al, in the same field of endeavor, discloses a method for determining an optical path of travel through a travel network. Trayford teaches **[0098], "Step 5 For each link in the network, determine the historically expected delay based upon the seasonally adjusted historical delay and the measured weather condition and computer for each link the ratio of the most recently measured delay for the link to the historically expected delay for the link at a time step corresponding to the measured delay. This ratio is labeled "JVL"...[0099] "Step 6: When predicting the expected delay from**

a commencement node to a destination node, determine the historically expected delay for each link as it would be at the expected commencement tine for each link and multiply the historically expected delay for each link of the route by the link's corresponding JVL ratio prior to summing the historically expected delays on each of the links to thus form a predicted expected delay for travel from the commencement node to the destination node."

("JVL" reads on "a configurable delay value" and "multiply the historically expected delay for each link of the route by the link's corresponding JVL ratio prior to summing the historically expected delays one each of the links" reads on multiplied a number of hops by a configurable delay value.)

Trayford et al further teaches "to determine the optimal path between two nodes in the traffic network, the optimal path being a series of connected traffic links between the two nodes resulting in the least expected delay.

Therefore, it would have been obvious to those having ordinary skill in the art at the time of the invention was made to implement the step of computing a total delay from commencement node to the destination node, such as taught by Trayfor et al, in Harper, for determined optimal path of travel through a travel network.

Regarding claims 17, 24, 30, Harper further teaches a computer readable medium comprising one or more sequences of instructions for a data communication network having, as elements, links and nodes **(see figure 2, Col. 4, line 1-10).**

Regarding claims 1 and 9, Harper discloses an apparatus (claim 9) and a method (claim 1) of generating routing information in a data communications network having, as elements, nodes and links, the method comprising the steps performed at al first network element of:

receiving at the first network element information relating to a change in the network at a second network element **(new route information is received in a link state packet, Abstract)**,

identifying a sequence in which updating of routing information at each element in the network should occur **(a sequence of links or routes or subnet is recalculated based on the received information in the link state packet, abstract)**,

for each network element in the network, computing a delay that is proportional to a distance to that network element from the first network element **("With link state routing, each router must discover its neighbors and learn their network addresses, measure the delay to each of its neighbors, construct a packet containing this information, send the packet to all other routers, and compute the shortest path to every other router." Col. 4, lines 37-52)**, and updating the routing information at the first element in sequence **(the steps of updating the routing information or updating a tree structure of a root node upon the completion of recalculation steps, Col. 2, line 15-20).**

Harper does not specifically teaches computing a delay that is proportional to a number of hops form the network element to a furthest upstream of its children multiplied by a configurable delay value.

Trayford et al, in the same field of endeavor, discloses a method for determining an optical path of travel through a travel network. Trayford teaches **[0098], "Step 5 For each link in the network, determine the historically expected delay based upon the seasonally adjusted historical delay and the measured weather condition and computer for each link the ratio of the most recently measured delay for the link to the historically expected delay for the link at a time step corresponding to the measured delay. This ratio is labeled "JVL"...[0099] "Step 6: When predicting the expected delay from a commencement node to a destination node, determine the historically expected delay for each link as it would be at the expected commencement tine for each link and multiply the historically expected delay for each link of the route by the link's corresponding JVL ratio prior to summing the historically expected delays on each of the links to thus form a predicted expected delay for travel from the commencement node to the destination node."**

("JVL" reads on "a configurable delay value" and "multiply the historically expected delay for each link of the route by the link's corresponding JVL ratio prior to summing the historically expected delays one each of the links" reads on multiplied a number of hops by a configurable delay value.)

Trayford et al further teaches “to determine the optimal path between two nodes in the traffic network, the optimal path being a series of connected traffic links between the two nodes resulting in the least expected delay.

Therefore, it would have been obvious to those having ordinary skill in the art at the time of the invention was made to implement the step of computing a total delay from commencement node to the destination node, such as taught by Trayfor et al, in Harper, for determined optimal path of travel through a travel network.

Regarding claims 2, 10, 18 and 25, wherein the step of identifying an updating sequence comprises determining a new shortest path through the network form the first network element for each network element in the network; and after a delay, updating routing information for the first network element based on the new shortest path for the first network element **(“With link state routing, each router must discover its neighbors and learn their network addresses, measure the delay to each of its neighbors, construct a packet containing this information, send the packet to all other router, and compute the shortest path to every router. Once a router has accumulated a full set of link state packets, It can construct the entire subnet graph since every link is now represented. Dijkstra’s algorithm is then run locally to construct the shortest path to all reachable destinations. The output of**

the Dijkstra algorithm is the next hop (i.e., intermediate router) to the destination. The result of this algorithm is installed in the routing tables." Col. 4-5, line 45-65 and 9-30, respectively).

Regarding claims 4, 12, 20, 27, wherein the delay is proportional to the distance of the first network element from the second network element **("With link state routing, each router must discover its neighbors measure the delay of each of its neighbors, column 4, line 45-50, also see FIG. 9)**

Regarding claims 5, 13, 21 and 28 wherein determining whether the information relating to a second network element indicates a increase in a cost metric for the second element **(see FIG. 4, elements 128 and 131 "IS this Neighbor Cost = best Cost").**

Regarding claim 6, 14, 22 and 29 Harper further teaches determining whether the information relating to a second network element indicates a decrease in a cost metric for the second element **(FIG. 4, element 128).**

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Pham whose telephone number is (571) 272-3135. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

October 25, 2008

/Brenda Pham/

Primary Examiner, Art Unit 2416